

REMARKS

Claims 1-3, 5-18, 20-26, 28, 29 and 31 are pending in the present application. Claims 1 and 16 have been amended to recite that the resulting cheese has improved meltability compared to cheese made using an unhydrolyzed whey protein preparation. Support for this amendment is found in the specification at page 11, line 16-19 and Example 2, page 13 to page 15.

It is respectfully submitted that the present amendment and response presents no new issues or new matter and places this case in condition for allowance. Reconsideration of the application in view of the amendments and the following remarks is requested.

I. The Information Disclosure Statement

The Examiner states out that the information disclosure statement filed on October 22, 2002 fails to comply with 37 C.F.R. 1.98(a)(3) because it does not include "a concise explanation of the relevance, as it is presently understood by the individual designated in 37 C.F.R. 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language."

Applicants direct the Examiner to the last paragraph of the October 22nd information disclosure statement, in which Applicant's attorney (i.e., the undersigned) submitted the following statement:

The reference submitted, NO 117 338, is not in English. NO 117 338 is the Norwegian equivalent of Swiss CH 495 707, which was previously submitted in a prior information disclosure statement. Pursuant to 37 C.F.R. 1.56 (c), NO 117 338 describes the production of whipped cream by adding to cream .01 to .5 of whey protein by weight and homogenizing the cream to produced whipped cream.

Applicants respectfully submit that the requirements of 37 C.F.R. 1.98(a)(3) have been met. Accordingly, Applicants respectfully request consideration of the information disclosure statement filed on October 22, 2002.

II. The Rejection of Claims 1-3, 5-18, 20-26, 28, 29 and 31 under 35 U.S.C. 103(a)

Claims 1-3, 5-18, 20-26, 28, 29 and 31 are rejected under 35 U.S.C. 103(a) over Marshall, G.B. 2324236, as follows:

Marshall discloses a fat/whey emulsion for use

in the manufacture of cheese in the amounts claimed (see entire patent).

The claims differ as to conditions for hydrolysis.

Applicant discloses on Page 4, that the "(w)hey proteins for use in the present invention may be obtained by any method known in the art", and no criticality is attached to these whey proteins.

In the absence of a showing to the contrary, the hydrolysis limitations are seen as no more than a matter of choice and well-within the skill of the art. The hydrolysis of whey proteins is notoriously well-known and the manipulation of degree of hydrolysis is conventional and provides for no more than expected results.

It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to use the claimed whey in that of Marshall because the use and manipulation of whey proteins is conventional in the art.

Applicant's arguments filed October 22, 2002 have been fully considered but they are not persuasive.

Applicants urge that the hydrolyzed whey proteins provides for unexpected results.

The declaration under 37 CFR 1.132 filed October 22, 2002 is insufficient to overcome the rejection of the claims as set forth in the last Office action for the following reasons.

1) The declaration is not commensurate in scope with the claims. Example 2 is specific for protein content whereas claim 1 broadly recites a whey protein preparation comprising hydrolyzed whey proteins.

2) There is no analysis of the data to support a conclusion of unexpected results.

In the absence of unexpected results, it is not seen how the claimed invention differs from the teachings of the prior art. Applicant's claims are drawn to a combination of known components which produces

expected results, see In re Kerkhoven 205 USPQ 1069
and In re Gershon 152 USPQ 602.

This rejection is respectfully traversed. The present invention is directed to a method for improving the incorporation of whey proteins into cheese. In particular, Applicants have determined that an increased amount of whey protein can be incorporated into cheese by subjecting a mixture of (i) cream and (ii) a hydrolyzed whey protein preparation to a homogenization process; b) mixing said homogenized mixture from said a) with a milk to provide a cheese milk; and c) producing cheese from said cheese milk.

Applicants have also determined that the use of hydrolyzed whey protein in the present invention provides both significant and unexpected results as compared to the use of unhydrolyzed whey protein, namely, that the use of hydrolyzed whey protein in accordance with the present invention provides a cheese having improved meltability as compared to cheese made using unhydrolyzed whey protein. As is clearly shown in Example 2 of the specification (with or without the support of the Declaration of Sabry Madkor), the use of hydrolyzed whey protein in the method of the present invention provides a cheese having an improved meltability as compared to cheese prepared using unhydrolyzed whey. Indeed, hydrolyzed whey protein incorporated by the methods of the present invention surprisingly reverses the decrease in meltability seen when using unhydrolyzed whey protein. See Example 2, including the Table on page 14 of the specification.

In this regard, although it was desired in the art to increase the level of whey protein in cheese, it is also well-known that when the level of whey protein in cheese was increased, the meltability of the cheese was impaired. See, e.g., J.S. Madsen, Proteolysis of Milk Protein in Relation to Gel Formation and in Mozzarella Cheese Manufactured by Ultrafiltration, Ph.D. thesis (1997) The Royal Veterinary and Agricultural University, Copenhagen, Denmark (teaching that Mozzarella cheese, e.g., has shown to lack stretchability and meltability if whey protein is included).

The results provided by the present invention, namely, the increased incorporation of whey in cheese without the impairment to meltability seen when using unhydrolyzed whey protein, are significant and clearly not predicted by the art. First, Marshall does not teach or suggest the use of hydrolyzed whey protein in a method of making cheese. Marshall is directed to using an unhydrolyzed whey protein. Marshall's use of the unhydrolyzed whey protein does not provide any teaching or suggestion as to how an artisan can increase the concentration of the

whey protein in cheese without having a detrimental impact on the meltability of the cheese. Indeed, as is clearly shown in Example 2 of the specification, the use of unhydrolyzed whey protein would not result in the benefits achieved by the use of hydrolyzed whey protein.

Moreover, with respect to the use of unhydrolyzed whey protein, the Examiner has not relied on a specific prior art reference for such teaching. Nevertheless, the Examiner is apparently referring to art which teaches that hydrolyzed whey protein can improve the emulsification properties of, e.g., beverages. However, the art's teaching with respect to improving emulsification properties does not provide the necessary suggestion or guidance as to how an artisan would modify the teachings of Marshall to both increase the amount of whey in cheese while addressing the meltability problems in cheese caused by the addition of whey protein.

Finally, it is also noted that the J.S. Madsen article, referenced above and cited in the accompanying information disclosure statement, also confirms the surprising and unexpected results of the present invention. Indeed, the J.S. Madsen articles teaches the benefit of proteolysis of casein to improve the meltability of cheese, but clearly also teaches that whey protein, by comparison, did not appear to be hydrolyzed by the protease and therefore the improvement in meltability was due to the hydrolysis of casein not whey.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. 103 as Marshall does not teach or suggest the present invention. Applicants respectfully request reconsideration and withdrawal of the rejection.

III. Conclusion

In view of the above, it is respectfully submitted that all claims are in condition for allowance. Early action to that end is respectfully requested. The Examiner is hereby invited to contact the undersigned by telephone if there are any questions concerning this amendment or application.

Respectfully submitted,



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